

5 WHAT IS CLAIMED IS:

1. Thermoplastic resin particles containing a coating composition, said coating composition comprising components selected from the group consisting of 1) a liquid part and 2) a solid part; said liquid part comprising:

a) greater than 0.01% by weight based on the weight of the particles, of polyethylene glycol having an average molecular weight ranging from about 200 to about 800; and

15 said solid part comprising components selected from the group consisting of:

b) greater than 0.01% by weight based on the weight of the particles, of polyolefin wax;

20 c) greater than 0.01% by weight, based on the weight of the particles, of a metal salt of higher fatty acids;

d) greater than 0.01% by weight, based on the weight of the particles, of polyethylene glycol having an average molecular weight ranging from about 900 to about 10,000; and

25 e) greater than 0.01% by weight, based on the weight of the particles, of a fatty bisamide; and combinations thereof.

2. Thermoplastic resin particles of claim 1 wherein the amount of a) is 0.01% to about 0.80% by weight based on the weight of the particles; the amount of b) is 0.01% to about 1.0% by weight, based on the weight of the particles; the amount of c) is 0.01% to about 0.60% by weight, based on the weight of the particles; the amount of d) is 0.1% to about 0.80% by weight, based on the weight of the particles; and

- 5           the amount of e) is 0.1% to about 1.0% by weight,  
based on the weight of the particles.
3.    Thermoplastic resin particles of claim 1  
wherein said coating composition consists of a) and  
b) .
- 10   4.   Thermoplastic resin particles of claim 1  
wherein said coating composition consists of a) and  
c) .
5.    Thermoplastic resin particles of claim 1  
wherein said coating composition consists of a) and  
15   d) .
6.    Thermoplastic resin particles of claim 1  
wherein said coating composition consists of a) and  
e) .
7.    Thermoplastic resin particles of claim 1  
20   wherein said coating composition consists of a), b),  
and c) .
8.    Thermoplastic resin particles of claim 1  
wherein said coating composition consists of a), c),  
and d) .
- 25   9.   Thermoplastic resin particles of claim 1  
wherein said coating composition consists of a), b),  
and d) .
10.   Thermoplastic resin particles of claim 1  
wherein said coating composition consists of a), b),  
30   and e) .
11.   Thermoplastic resin particles of claim 1  
wherein said coating composition consists of a), c),  
and e) .
12.   Thermoplastic resin particles of claim 1  
35   wherein said coating composition consists of a), d)  
and e) .

- 5        13. Thermoplastic resin particles of claim 1  
wherein said coating composition consists of a), b),  
c), and d).
14. Thermoplastic resin particles of claim 1  
wherein said coating composition consists of a), b),  
10        c), and e).
15. Thermoplastic resin particles of claim 1  
wherein said coating composition consists of a), c),  
d), and e).
16. Thermoplastic resin particles of claim 1  
15        wherein said coating composition consists of a), b),  
d), and e).
17. Thermoplastic resin particles of claim 1  
wherein said coating composition consists of a), b),  
c), d), and e).
- 20        18. Thermoplastic resin particles of claim 3  
wherein said coating composition comprises: a)  
polyethylene glycol in an amount of 0.30% by weight  
based on the weight of the particles; b) polyolefin  
wax in an amount of about 0.40% by weight, based on  
25        the weight of the particles; and c) a metal salt of  
higher fatty acids in an amount of about 0.105% by  
weight, based on the weight of the particles.
19. Thermoplastic resin particles of claim 1  
wherein said metal salt of higher fatty acids is  
30        selected from the group consisting of zinc,  
magnesium, calcium, and aluminum salt of stearic,  
lauric and myristic acid.
20. Thermoplastic resin particles of claim 19  
wherein said metal salt of higher fatty acids is  
35        selected from the group consisting of calcium  
stearate and zinc stearate.

- 5        21.    Thermoplastic resin particles of claim 20  
         wherein said metal salt of higher fatty acids is  
         zinc stearate.
22.    Thermoplastic resin plastics of claim 1  
         wherein said thermoplastic particles are  
10       homopolymers derived from vinyl aromatic monomers  
         selected from the group consisting of styrene,  
         isopropylstyrene, alpha-methylstyrene, nuclear  
         methylstyrenes, chlorostyrene, and tert-  
         butylstyrene.
- 15       23.    Thermoplastic resin particles of claim 1  
         wherein said thermoplastic resin particles are  
         expandable polystyrene particles.
24.    Thermoplastic resin particles of claim 1  
         wherein said fatty bisamide is ethylene bis-  
20       stearamide.
25.    Thermoplastic resin particles of claim 1  
         wherein said polyethylene glycol of a) ranges in an  
         amount from about 0.05% by weight to about 0.80% by  
         weight, based on the weight of the particles and has  
25       an average molecular weight of 400.
26.    Thermoplastic resin particles of claim 1  
         wherein said components of said solid part of said  
         coating components are dry mixed together and then  
         dry blended with said thermoplastic particles.
- 30       27.    Thermoplastic resin particles of claim 1  
         wherein said polyolefin wax is selected from the  
         group consisting of polyethylene wax and  
         polypropylene wax.
28.    Thermoplastic resin particles of claim 27  
35       wherein said polyolefin wax is polyethylene wax.

5        29.    Thermoplastic resin particles of claim 1  
         wherein said coating composition covers said  
         thermoplastic resin particles in an amount ranging  
         from about 0.005% to about 2.0% by weight, based on  
         the weight of the thermoplastic resin particles.

10       30.    A foam container made from the thermoplastic  
         resin particles of claim 1.

         31.    A molded article made from the thermoplastic  
         resin particles of claim 1.

         32.    A coating composition, comprising components  
15       selected from the group consisting of 1) a liquid  
         part and 2) a solid part;  
             said liquid part comprising:  
             a) greater than 0.01% by weight based on the  
             weight of the particles, of polyethylene glycol  
20       having an average molecular weight ranging from  
         about 200 to about 800;  
             said solid part comprising components selected  
             from the group consisting of:  
             b) greater than 0.01% by weight, based on the  
25       weight of the particles, of polyolefin wax;  
             c) greater than 0.01% by weight, based on the  
             weight of the particles, of a metal salt of higher  
             fatty acids;  
             d) greater than 0.01% by weight, based on the  
30       weight of the particles, of polyethylene glycol  
             having an average molecular weight ranging from  
             about 900 to about 10,000; and  
             e) greater than 0.1% by weight, based on the  
             weight of the particles, of ethylene bis-stearamide;  
35       and combinations thereof.

5        33.    The coating composition of claim 32 wherein  
the amount of a) is 0.01% to about 0.80% by weight  
based on the weight of the particles; the amount of  
b) is 0.01% to about 1.0% by weight, based on the  
weight of the particles; the amount of c) is 0.01%  
10      to about 0.60% by weight, based on the weight of the  
particles; the amount of d) is 0.1% to about 0.80%  
by weight, based on the weight of the particles; and  
the amount of e) is 0.1% to 1.0% by weight, based on  
the weight of the particles.

15      34.    A coating composition of claim 32 wherein said  
coating composition consists of a) and c).

35.    A coating composition of claim 32 wherein said  
coating composition consists of a), c), and d).

36.    A coating composition of claim 32 wherein said  
20      coating composition consists of a), b), and c).

37.    A coating composition of claim 32 wherein said  
coating composition consists of b) and c).

38.    A coating composition of claim 32 wherein said  
coating composition consists of a), c), and e).

25      39.    A coating composition of claim 32 wherein said  
coating composition comprises: a) in an amount of  
0.30% by weight based on the weight of the  
particles; b) in an amount of about 0.40% by weight,  
based on the weight of the particles; and c) in an  
30      amount of about 0.105% by weight, based on the  
weight of the particles.

40.    A coating composition of claim 32 wherein said  
metal salt of higher fatty acids is selected from  
the group consisting of zinc, magnesium, calcium and  
35      aluminum salt of stearic, lauric and myristic acid.

5        41.    A coating composition of claim 40 wherein said metal salt of higher fatty acids is selected from the group consisting of calcium stearate and zinc stearate.

10       42.    A coating composition of claim 41 wherein said metal salt of higher fatty acids is zinc stearate.

15       43.    A coating composition of claim 32 wherein said polyethylene glycol of a) of said coating composition ranges in an amount from about 0.050% by weight to about 0.80% by weight, based on the weight of the particles and has an average molecular weight of 400.

20       44.    A coating composition of claim 32 wherein said polyolefin wax is selected from the group consisting of polyethylene wax and polypropylene wax.

25       45.    A coating composition of claim 44 wherein said polyolefin wax is polyethylene wax.

30       46.    A method for improving the resistance to leakage of a foam container made with expandable thermoplastic resin particles, the steps comprising:

35              applying a coating composition of claim 32 to expandable thermoplastic resin particles, and including the step of applying component a) of said coating composition to said expandable thermoplastic resin particles and adding a combination of components b) through e) to said thermoplastic resin particles.

40       47.    A method for improving the resistance to leakage of a foam container made with expandable thermoplastic resin particles, which are formed into pre-expanded thermoplastic resin particles, the steps comprising:

5           applying a coating composition of claim 32 to  
said pre-expanded thermoplastic resin particles, and  
including the step of optionally applying component  
a) of said coating composition to said pre-expanded  
thermoplastic resin particles and adding a  
10 combination of components b) through e) to said pre-  
expanded thermoplastic resin particles.